CLAIMS

Claim 1. (currently amended) In a process for the treatment of digested cellulosic pulp preparatory to bleaching of the pulp, the improvement comprising subjecting the pulp at a medium consistency to chlorine dioxide for a time period of at least ~~60~~ 75 minutes to delignify the pulp prior to bleaching thereof.

Claim 2. (original) The improvement of Claim 1 wherein the pulp at a medium consistency is subjected to chlorine dioxide for a time period between about 60 minutes and about 180 minutes.

Claim 3. (original) The improvement of Claim 1 wherein the pulp is at a consistency of between about 10% and about 15%, based on the weight of oven dried pulp.

Claim 4. (original) The improvement of Claim 1 wherein the pulp is pre-washed following digestion thereof and prior to subjection of the pulp to chlorine dioxide.

Claim 5. (original) The improvement of Claim 1 and including the step of subjecting said digested pulp to O2 delignification prior to subjecting said pulp to chlorine dioxide.

Claim 6. (original) The improvement of Claim 1 wherein said chlorine dioxide is in either a liquid or gaseous state.

Claim 7. (original) The improvement of Claim 1 wherein said pulp comprises either hardwood or softwood pulp.

Claim 8. (original) The improvement of Claim 1 and including the further step of subjecting said first treated pulp to one or more bleaching operations for enhancing at least the brightness of the pulp and removal of dirt from the pulp.

Claim 9. (original) The improvement of Claim 8 wherein said bleaching operations include sequentially subjecting the first treated pulp to an extraction which includes oxygen, peroxide or a combination of the same.

Claim 10. (original) The improvement of Claim 9 wherein said extraction is followed by one or more exposures of the pulp to chlorine dioxide.

Claim 11. (original) The improvement of Claim 1 wherein said step of subjecting of the pulp at a medium consistency for said time period effects substantial removal of hexauronic acid from the pulp.

Claim 12. (original) The improvement of Claim 10 wherein at least 50 and about 80 % of the hexauronic acid originally in the pulp is removed.

Claim 13. (currently amended) In a process for preparation of a digested cellulosic pulp for use in a papermaking process, the improvement comprising the steps of subjecting the pulp at a consistency between about 10% and about 15% based on the weight of oven dried pulp in a vessel to chlorine dioxide for a time period of at least ~~60~~ 75 minutes, thereafter subjecting this first-treated pulp to a bleaching sequence which includes at least one stage in which the pulp is subjected to chlorine dioxide for a time period sufficient to produce a pulp of a desired brightness and viscosity, and thereafter recovering the pulp for use in a papermaking process.

Claim 14. (original) A sequence for preparation of digested cellulosic pulp for use in papermaking comprising D_{emc} followed by one or more of either E_o, E_p, Eop, D_1 or D_2.

Claim 15. (original) The sequence of Claim 13 wherein said D_{emc} is followed by E_{op} and D_1.

Claim 16. (original) The sequence of Claim 14 and including D_2 following D_1.

Claim 17. (original) A method for retrofitting a preexisting multi-stage digested cellulosic pulp treatment facility comprising the step of incorporating into said facility a D_{emc} first stage.

Claim 18. (currently amended) The method of Claim ~~16~~ 17 wherein the preexisting multistage facility includes a D_o stage and said D_{emc} stage supplants said D_o stage.

Claim 19. (original) The method of Claim 17 wherein said preexisting multistage facility includes a D_1 stage and said D_{emc} stage supplants said D_1 stage.

Claim 20. (original) The method of Claim 17 wherein said preexisting multistage facility includes a D_2 stage and said D_{emc} stage supplants said D_2 stage.

Claim 21. (original) A method for the removal of hexauronic acid from a digested cellulosic pulp comprising contacting a medium consistency pulp containing hexauronic acid in a vessel with chlorine dioxide for a time sufficient to extract said hexauronic acid from said pulp, said time being not less than about 75 minutes.

Claim 22. (original) The method of Claim 21 wherein said pulp in said vessel is of a pH of between about 2 and about 4 and at a temperature of between about 100 and about 170 degree F.

Claim 23. (New) The method of Claim 21 wherein at least 70% of the hexauronic acid is removed from the digested cellulosic pulp.

Claim 24. (New) The method of Claim 21 wherein more than 80% of the hexauronic acid is removed from the digested cellulosic pulp.